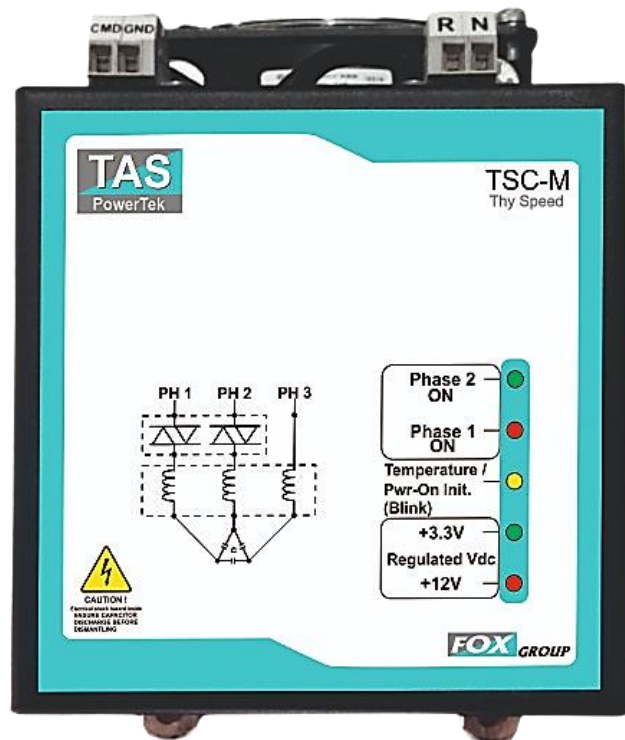




Product Data Sheet

Thy Speed – TSC-M Thyristor Switch



Thy Speed -TSC-M Thyristor Switch is a compact, solid-state thyristor switching module engineered for ultra-fast (<10 ms) capacitor switching in dynamic Power Factor Correction (PFC) systems. Utilizing zero-current/voltage switching logic, it eliminates transients and inrush currents, making it ideal for applications with rapidly fluctuating reactive loads such as welding, cranes, and VFD systems. Available in 25–100 kVAR ratings with 24V DC or 230V AC control input options, it features integrated RC snubber, NTC-based thermal protection, multicolour LED diagnostics, and fan-assisted cooling. Designed for seamless integration into APFC panels, it ensures long service life, silent operation, and full compliance with IEC standards.

PRODUCT FEATURES

- **Ultra-Fast Switching (<10 ms)**
Enables dynamic PFC applications by switching capacitors in less than one-half cycle, suitable for loads with rapidly changing reactive power.
- **Zero-Current/Voltage Switching Logic**
Synchronizes capacitor switching at zero-crossing to eliminate transients and inrush currents.
- **Robust Design**
Easily integrates into new or existing capacitor banks or APFC panels.
- **Dual Control Options**
Available with either 24V DC or 230V AC control input, compatible with most APFC relays.
- **Built-in Protection Features**
Includes RC snubber circuit, NTC-based thermal protection, and LED fault indicators.
- **Ease of Installation**
Clearly marked terminals, pre-wired modules, and DIN rail or backplate mounting.
- **Status Indication & Diagnostics**
Multicolour LED indicators for power, capacitor status, temperature, and faults.
- **Long Operating Life & Silent Operation**
Solid-state design eliminates mechanical wear and noise.
- **Safety & Standards Compliance**
Designed per IEC standards; requires external fuse protection.

TECHNICAL SPECIFICATIONS

Parameter	Specification
Model	TSCM_02_xxx (e.g., TSCM_02_025, TSCM_02_050, etc.)
Rated Voltage (AC)	415V ±10%, 3-phase, 50 Hz
Rated Capacitor Bank (kVAR)	25, 50, 75, 100 kVAR (based on variant)
Switching Time	< 10 ms (zero-crossing switching)
Control Voltage Options	24V DC or 230V AC (as per variant)
Power Circuit Terminals	L1, L2, L3 (input); C1, C2, C3 (to capacitor)
Control Circuit Terminals	A1, A2 (Control Input)
Indications (LEDs)	Green (Power ON), Yellow (Cap ON), Red (Fault)
Protection	RC Snubber, Over-temp via NTC, LED indication
Ambient Temperature	0°C to 50°C (with derating above 45°C)
Cooling Requirement	Forced air cooling with fan (included)
Mounting Orientation	Vertical, inside ventilated panel
Minimum Spacing (Sides/Top)	50 mm (sides), 100 mm (top) for proper airflow
External Fuse Requirement	Type gG, rated for respective kVAR model
Weight	~4–6 kg depending on model
Dimensions (HxWxD)	Approx. 250 x 150 x 170 mm (varies with model)
Enclosure Type	Open chassis for panel mounting
Response Time to Control Input	< 20 ms
Compliance	Designed per IEC standards
Model	TSCM_02_xxx (e.g., TSCM_02_025, TSCM_02_050, etc.)

All specifications are typical and subject to change without notice due to ongoing product development and improvement.